REGULATORY GUIDE 4.4

GUIDE FOR THE PREPARATION OF OPERATING AND SAFETY PROCEDURES FOR DENTAL FACILITIES

I. Introduction

Operating and safety procedures are required by 25 Texas Administrative Code (TAC) §289.232(i)(3). The model procedures in this regulatory guide are generic. You must write procedures that are specific for your facility. By using the sections of this guide that apply, you may create your unique set of operating and safety procedures. This guide may also be used to develop operating and safety procedures for facilities with mobile services. Individuals who are sole practitioners and sole operators and the only occupationally exposed individual are exempt from §289.232(i)(3) and do not have to maintain operating and safety procedures. Although other operating and safety procedure formats are acceptable, at least the information contained in §289.232(i)(3)(A)-(I) must be included in your operating and safety procedures.

II. Sample Operating and Safety Procedures

OPERATING AND SAFETY PROCEDURES
FOR

(name of facility)

These are procedures that will minimize radiation exposure to patients and employees. They are provided to comply with rules enforced by the Texas Department of Health, Bureau of Radiation Control (BRC). The rules require that each dental x-ray facility be registered with the BRC. The certificate of registration contains conditions and restrictions that apply to the use of the x-ray machines in this facility. These rules are available for your review in/at (specify location) [See §289.232(i)(5)(B)].

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The rules require that a Radiation Safety Officer (RSO) be designated. The RSO has the responsibility and authority for assuring safe radiation practices and serves as the contact person between this facility and the BRC. Direct all your questions or concerns on radiation safety to the RSO for this facility, ___(specify name)___ [See §289.232(h)(11)].

A. Operator and Patient Safety

1. Credentialing Requirements for Operators of X-ray Machines

   All operators of x-ray machines must meet the requirements of the Texas State Board of Dental Examiners [For information, contact the State Dental Board at 512-463-6400].

2. Individual Monitoring Requirements

   Individuals who operate only dental x-ray machines are exempt from individual monitoring requirements [See §289.232(d)(6)].

3. Holding of Patients and/or Film

   a. Film holding devices shall be used except in the following situations [See §289.232(i)(13)(B)]:

      1. ___(List situations)_____
      2. _____
      3. _____

   b. Do not hold the tube housing and the support housing during an exposure [See §289.232(i)(13)(D)].

   c. If it becomes necessary for an individual to hold a patient or film, the holder should not be pregnant. They should wear protective devices (e.g., lead aprons) and keep out of the direct beam.

4. Posting Notices and Instructions to Workers; and Posting a Radiation Area

   a. Read the "Notice to Employees" sign posted in/at __(specify location)__.

b. The certificate of registration, operating and safety procedures, and any notices of violations involving radiological working conditions are located in/at (specify location(s)) [See §289.232(i)(5)(B)].

c. Your rights and obligations as a radiation worker are found in §289.232(i)(4)(D) and (k)(1).

d. The room(s) in which the x-ray machine(s) is/are located and operated is a radiation area and is restricted.

(Choose one of the following sentences)

- The radiation area is designated by "Caution Radiation Area" signs [See §289.232(i)(5)(D)].

- Our facility is not required to post "Caution Radiation Area" signs because our operators have continuous surveillance and access control to the radiation area [See §289.232(i)(5)(E)].

B. Dose to Operators

1. Occupational dose limits are found in §289.232(i)(4)(A).

2. If any employee is pregnant or becomes pregnant, she may voluntarily inform the RSO in writing of the pregnancy [See §289.232(c)(22)]. If the RSO is informed of the pregnancy, the facility must ensure that the dose to the embryo/fetus does not exceed 0.5 rem (500 mrem) during the entire pregnancy [See §289.232(i)(4)(A)(*i*)(*IV*)].

3. Radiation Incident or Overexposure

If you suspect there has been an excessive exposure or a radiation incident, immediately notify the RSO [See §289.232(j)(2)(B)].

C. Operation of the X-ray Machine and Film Processing

1. Ordering of X-ray Exams

No x-ray exams shall be taken unless ordered by a dentist [See §289.232(a)(4)].

2. Operator Position During Exposure [See §289.232(i)(13)(C)]

   a. The operator must be able to continuously view and communicate with the patient.

   b. During the exposure, the operator must stand at least six feet from the useful beam or behind a protective barrier.

3. Use of a Technique Chart

   Use of a technique chart aides in reducing the exposure to the operator and patient and it must be used for all exposures. Our technique charts are displayed in the vicinity of the control panel of each x-ray machine and may be (choose one, two, or all of the following: written [See Appendix C]; electronically displayed; or graphically displayed) [See §289.232(i)(6)(A)].

4. Restriction and Alignment of the Beam

   Use the beam limiting devices provided on the x-ray machine [See §289.232(i)(6)(M)].

5. Use of Mobile or Portable Machines

   - (Mobile x-ray equipment is mounted on a permanent base with wheels and/or casters for moving while completely assembled)

   - (Portable x-ray equipment is designed to be hand-carried)

   a. During the exposure the operator:

      (i) must be positioned so that his/her exposure is as low as reasonably achievable (ALARA) (e.g. 6 feet or more away) [See §289.232(i)(1)]; and/or

      (ii) should never be in line with the direct beam.

   b. The x-ray tube housing shall not be held by an individual during any radiographic exposure [See §289.232(i)(13)(D)].

6. Film Processing [See Appendix B]

a. Unexposed film is stored (describe location and procedures for storage).

b. Films shall be developed by the time and temperature recommended by the x-ray film manufacturer. These specifications are posted in/at (specify location) [See §289.232(i)(14)(A)].

(i) Check the temperature at the beginning of the work day. Do not process films unless the developer temperature is (specify temperature). Manual processing temperature should be checked throughout the work day.

(ii) For automatic processors, run blank films through the processor at the beginning of the work day.

c. Expiration dates on film and chemicals should be checked periodically. New film or chemicals should be rotated so the oldest are used first. Do not use films or chemicals after the expiration date.

d. Chemicals will be replaced by (specify name) according to the manufacturer's or chemical supplier's recommended interval, which is (indicate frequency), or no longer than every three months [See §289.232(i)(14)(B)].

e. Lighting in the film processing/loading area is provided under these conditions and should not be changed without authorization from the RSO.

Filter type _____
Bulb wattage _____
Distance from work surfaces _____

f. If you see light leaks around doors, ceilings, or other openings in the darkroom, notify the RSO.

7. Alternative Processing Systems

Users of daylight processing systems, laser processors, self-processing (Polaroid) film units, or other alternative processing systems shall develop procedures following manufacturer's recommendations for image/film processing [See §289.232(i)(15)].

APPENDIX A

SAMPLE RECORD FOR INSTRUCTION OF INDIVIDUALS IN OPERATING AND SAFETY PROCEDURES FOR

(name of facility)

These procedures have been made available to each individual who operates the x-ray equipment on the date(s) indicated [See §289.232(i)(3)].

(Signature of RSO) (Date)

Equipment Operator Statement:

I have read these procedures and agree to abide by them.

(Signature of Equipment Operator) (Date)

(Signature of Equipment Operator) (Date)

(Signature of Equipment Operator) (Date)

(Signature of Equipment Operator) (Date)

(Signature of Equipment Operator) (Date)

(Signature of Equipment Operator) (Date)

APPENDIX B

SAMPLE DARKROOM REQUIREMENTS LOG FOR CALENDER YEAR _____

Automatic processor (Model #, Serial #) _____
OR
Manual processing _____

Developer temperature _____

Chemicals replaced
(manufacturer's or chemical supplier's recommendations or every 3 months)

_____ (initials)(date) _____ (initials)(date)

_____ (initials)(date) _____ (initials)(date)

Darkroom light leak tests performed (every 6 months)

_____ (initials)(date) _____ (initials)(date)

Lighting checked in film processing/loading area:

filter type _____
bulb wattage _____
distance from work surfaces _____

_____ (initials)(date) _____ (initials)(date)

Light leaks or related deficiencies noted _____
(initials)(date)

_____
(initials)(date)

Corrections of light leaks or related deficiencies (or attach service/work orders) _____

_____
(initials)(date)

_____
(initials)(date)

Appendix C

SAMPLE DENTAL TECHNIQUE CHART

CEPHALOMETRIC

PATIENT SIZE	kVp	mA	TIME	SID	FILM/SCREEN
Small					
Medium					
Large					

PANORAMIC

PATIENT SIZE	kVp	mA	TIME	SID	FILM/SCREEN
Small					
Medium					
Large					

INTRAORAL

ADULT	kVp	mA	TIME	SSD	FILM/SCREEN
Anterior Region					
Posterior Region					
Bite Wing					
CHILDREN					
Anterior Region					
Posterior Region					
Bite Wing					